CHAPTER 15. ASBESTOS CONTROL PROGRAM

1500. GENERAL. This chapter covers the establishment and maintenance of a Federal Aviation Administration (FAA) asbestos control program, whose purpose is to ensure the protection of FAA employees at FAA facilities from exposure to airborne asbestos fibers in excess of workplace standards. This shall be accomplished through proper management of asbestos-containing materials (ACM) and materials presumed to contain asbestos (PACM) in all FAA-owned or -leased buildings and/or facilities and all General Services Administration (GSA)-controlled buildings and/or facilities occupied by FAA.

a. The FAA shall comply with asbestos regulations promulgated by the Occupational Safety and Health Administration (OSHA) and the Environmental Protection Agency (EPA), any other applicable Federal, state, and local laws and regulations, and with all contractual requirements.

b. Asbestos-related work performed by FAA employees shall be limited to Class III and IV work, as defined in paragraph 1505i. Class I and II work shall be performed by qualified asbestos abatement contractors with qualified, competent third party oversight. Prior to working with ACM and/or PACM, FAA employees shall be trained in accordance with paragraph 1506e.

1501. BACKGROUND. In February 1986, the Office of Aviation Medicine, which at that time was the office of primary interest for all occupational health policy, published Order 3910.5, Asbestos Control. In June 1986, OSHA issued two revised standards for asbestos, one governing occupational exposure in general industry, the other applicable to construction workplaces. Both standards reduced the 8-hour time weighted average (TWA) permissible exposure limit (PEL) to 0.2 f/cc from 2 f/cc, and provided an action level of 0.1 f/cc. In August 1994, OSHA again revised the two standards, and reduced the 8-hr TWA to 0.1 f/cc and eliminated the action level. OSHA worked closely with EPA during the 1994 revision so that the regulations of both agencies are compatible to the extent OSHA's mandate allows. In May 1995, the Airway Facilities Service published Order 1050.20, Airway Facilities Asbestos Control, delineating procedures for the management of ACM in FAA facilities. This chapter replaces Order 3910.5 and complements Order 1050.20 at the agencywide level.

1502. GOALS AND OBJECTIVES. The goal of this FAA asbestos control program is to provide for a strong network of programs and procedures that will ensure that ACM and/or PACM are maintained in good condition, thus ensuring the protection of FAA employees, contractors, and visitors.

1503. SCOPE. This chapter provides coverage for all FAA employees who work in, maintain, operate, or otherwise occupy FAA-owned or -leased buildings and/or facilities and GSA-controlled buildings and/or facilities. It also applies to FAA employees who may be working in buildings and facilities not already identified in this chapter, such as those controlled by the Department of Defense.

1504. STANDARDS.

a. Federal, state, and local governments have promulgated regulations concerning asbestos. FAA is interested in regulations addressing employee exposure to asbestos fibers during construction, maintenance, and custodial operations, and the performance of contract asbestos abatement workers who work with ACM and/or PACM in FAA buildings and facilities. The following Federal regulations are concerned directly with asbestos:

29 CFR 1910.1001	OSHA General Industry Asbestos Standard
29 CFR 1910.134	OSHA Respiratory Protection Standard
29 CFR 1926.1101	OSHA Construction Asbestos Standard
40 CFR 61 Subpart M	National Emission Standard for Asbestos

40 CFR 763 Subpart E	Asbestos-Containing Material in Schools (EPA regulation pursuant to AHERA)
40 CFR 763 Subpart E Appendix C	Asbestos Model Accreditation Plan, as amended for ASHARA (Asbestos School Hazard Abatement Reauthorization Act)

b. Amendments to these regulations are published in the *Federal Register*. It is important for users to ensure that they have all the latest amendments and interpretations. Users also should ensure that they have all current applicable state, local, and host country regulations.

c. FAA employees performing asbestos-related work, and their supervisors, must be familiar with AAF implementation guidance that pertains to the operations they perform. Other suggested reference documents include: Guidance for Controlling Asbestos-Containing Materials in Buildings, EPA 560/5-85-024, June 1985; and Managing Asbestos in Place, EPA 20T-2003, July 1990.

d. In addition to the requirements of the regulations contained in paragraphs 1504a, 1504b, and 1504c, adherence to the provisions contained in applicable collective bargaining agreements concerning asbestos is required.

1505. DEFINITIONS.

a. Aggressive sampling. An air sampling technique whereby air samples are collected while fans or air circulating devices are operated in a work area, and while floors, walls, and other structural surfaces are sufficiently agitated using a device such as a leaf blower to entrain any particles that may be present. Aggressive sampling is used at the completion of abatement, after an area has been thoroughly cleaned.

b. Air monitoring. The process of measuring the airborne fiber content of a specific volume of air in a stated period. Air monitoring shall be performed in accordance with OSHA asbestos standards.

c. Area air sample. An air sample obtained by using a stationary air pump, with a sampling cassette in-line, to monitor air contaminants within contained or ambient air environments.

d. Asbestos. A class of magnesium-silicate minerals that includes chrysotile, amosite, crocidolite, tremolite asbestos, anthophyllite asbestos, actinolite asbestos, and any of these minerals that have been chemically treated and/or altered.

e. Asbestos abatement. Procedures to control fiber release from ACM and/or PACM in a building or to remove it entirely. These procedures may involve removal, encapsulation, repair, enclosure, encasement, and operation and maintenance programs.

f. Asbestos containing material (ACM). Any material that has been sampled, analyzed by an accredited laboratory, and confirmed to contain more than 1.0 percent asbestos of any type or mixture.

g. Asbestos Control Plan (ACP). A comprehensive written plan including policy and procedures for effective asbestos management, and covering at least the following areas: oversight of Class I and II asbestos abatement contracts; routine inspections and assessment of ACM/PACM; area sampling, exposure monitoring, and clearance determination; Class III and IV operations and maintenance (O&M) work performed by FAA employees, including an O&M Plan and related standard operating procedures (SOP); a facility asbestos abatement contingency plan for unanticipated releases of asbestos fiber in buildings and facilities during contracted Class I and II abatement projects; signage procedures; medical surveillance; training; recordkeeping; and quality control.

h. Asbestos fiber. A particulate form of asbestos, 5 micrometers or longer, with a length-to-diameter ratio of at least 3 to 1.

i. Asbestos work.

(1) Class I asbestos work: Activities involving the removal, for abatement purposes, of thermal system insulation (TSI) and surfacing ACM and/or PACM.

(2) Class II asbestos work: Activities involving the removal, for abatement purposes, of ACM that is not TSI or surfacing material. This includes, but is not limited to, the removal of asbestos-containing wallboard, floor tile and sheeting, roofing and siding shingles, and construction mastics.

(3) Class III asbestos work: Repair and maintenance operations where ACM, including TSI and surfacing ACM and/or PACM, may be disturbed. Class III work includes maintenance work for which a small amount of ACM and/or PACM must be cut away to access mechanical or structural components of buildings. In order to qualify as Class III work (rather than Class I or Class II work), the amount cut away must be less than the amount that can be contained in a standard sized glovebag or waste bag (60" x 60").

(4) Class IV asbestos work: Maintenance and custodial activities during which employees contact but do not disturb intact ACM and/or PACM, and clean-up activities that take place in an area after a Class I, II, or III job has been completed. Class IV work may include tasks like buffing and polishing ACM and/or PACM flooring and vacuuming the dust on consoles. Class IV asbestos work does not include picking up and bagging asbestos waste and debris during Class I, II, and III work.

j. Baseline level sampling. Area air sampling that is performed prior to the onset of asbestos abatement work, and may be referred to as the background level.

k. Breathing zone. A hemisphere forward of the shoulder with a radius of 6 to 9 inches from the worker's nose. Employee exposure sampling must take place within this zone.

l. Building/facility owner. The legal entity that exercises control over management and recordkeeping functions relating to a building and/or facility in which activities covered by this chapter take place. For example, the FAA is the legal entity for all buildings and/or facilities owned by the FAA. GSA is the legal entity for GSA-controlled buildings and facilities occupied by FAA employees. For buildings and/or facilities leased to the FAA, the building/facility owner is the legal entity.

m. Center. Refers to the Mike Monroney Aeronautical Center and the William J. Hughes Technical Center.

n. Certified Industrial Hygienist (CIH). A person who has been certified in the comprehensive practice of industrial hygiene by the American Board of Industrial Hygiene.

o. Clearance sampling. The practice of using air monitoring in order to approve an area for reoccupancy after an asbestos abatement project.

p. Competent person. A person who meets the intent of the definition in 29 CFR 1926.32(f) and who is capable of identifying existing asbestos hazards in the workplace and selecting the appropriate control strategy for asbestos exposure, and who has the authority to take prompt corrective measures to eliminate them. Additionally, for Class I and Class II work, whose training meets the criteria in EPA's Model Accreditation Plan (40 CFR 763, Subpart E, Appendix C) for supervisor, or its equivalent. For Class III and Class IV work, a competent person who is trained in a manner consistent with EPA requirements for training of local education agency maintenance and custodial staff as set forth at 40 CFR 763.92(a)(2). See 29 CFR 1926.1101(o)(1) for further clarification.

q. Comprehensive asbestos inspection. A building- or facility-wide inspection by an EPA-accredited asbestos inspector in current standing and whose training meets the criteria in EPA's Model Accreditation Plan (40 CFR 763, Subpart E, Appendix C) for inspector; and who is experienced in collecting bulk and area air samples in accordance with Asbestos Hazard Emergency Response Act (AHERA) regulations and EPA guidance. This inspection shall be performed in accordance with 40 CFR 763, Subpart E.

r. Containment. Isolation of the work area from adjacent areas or surrounding areas to prevent escape of asbestos fibers.

s. Critical barrier. One or more layers of plastic sealed over all openings from a work area, or any other similarly placed physical barrier sufficient to prevent airborne asbestos fibers in a work area from migrating to an adjacent area.

t. Disturbance. Activities that disrupt the matrix of ACM or PACM, that crumble or pulverize ACM or PACM, or that generate visible debris from ACM or PACM. Disturbance also includes drilling through ACM or PACM, or cutting away small amounts of ACM or PACM, no greater than the amount that can be contained in one standard-sized glovebag or waste bag (not exceeding 60 inches in length and width), in order to access a building component.

u. Employee exposure. That exposure to airborne asbestos that would occur if the employee were not using respiratory protective equipment.

v. Facility asbestos abatement contingency plan (FAACP). An FAA document that details oversight and response procedures to be followed by facility management, employees, any FAA "competent person(s)," and the independent third party CIH during a Class I or II asbestos abatement project performed by a contractor (see paragraph 1506i).

w. Friable. Capable of being crumbled, pulverized, or reduced to powder by hand pressure when dry, resulting in a release of airborne fibers.

x. Glovebag. An impermeable plastic bag-like enclosure affixed around an asbestos-containing material (often TSI), with glove-like appendages through which material and tools may be handled so that the material may be removed while minimizing release of airborne fibers to the surrounding atmosphere.

y. High Efficiency Particulate Air (HEPA) filter. A filter capable of trapping and retaining 99.97 percent of all mono-dispersed particles (i.e., particles that are uniformly distributed within a volume of air) which are greater than 0.3 microns in diameter. A HEPA filter will capture asbestos fibers in ambient air.

z. Industrial hygienist. A professional qualified by education, training, and experience to anticipate, recognize, evaluate, and develop controls for occupational health hazards.

aa. Intact. ACM that is not crumbled, pulverized, or otherwise deteriorated, so that the asbestos fibers are still bound with its matrix .

bb. Medical surveillance. A multi-disciplinary team activity requiring collaboration of FAA management and employees, industrial hygienists, health physicists, engineers, safety professionals, statisticians, nurses, and physicians to maintain and improve the health of the work force. The objective of medical surveillance of workers is to reduce occupational morbidity and mortality.

cc. Operations and Maintenance (O&M) Plan. A subset of the overall Asbestos Control Plan, which provides work practices that will maintain ACM in good condition, ensure proper responses to minor asbestos releases, prevent further releases of asbestos, and monitor the condition of ACM.

dd. Periodic monitoring. Area air monitoring that is performed to determine if there is a change in the concentration of airborne fibers.

ee. Permissible exposure limit (PEL).

(1) an 8-hour time-weighted average (TWA) airborne concentration of asbestos not in excess of 0.1 fiber per cubic centimeter of air, as determined by the method prescribed in Appendix A of the OSHA asbestos standard, or by an equivalent method, or

(2) an airborne concentration of asbestos not in excess of 1.0 fiber per cubic centimeter of air as averaged over a sampling period of 30 minutes, as determined by the method prescribed in Appendix A of the OSHA asbestos standard, or by an equivalent method.

ff. Personal air sample. An air sample obtained by having the worker wear a sampling pump in train with a sampling line and a cassette. The cassette is positioned in the breathing zone of the wearer (not inside a respirator, if worn).

gg. Presumed asbestos containing material (PACM). Thermal system insulation and surfacing material found in buildings constructed before 1981. For the purpose of this chapter, PACM may also include other types of materials (such as flooring, roofing, siding, and transite) determined by the FAC as having the potential to contain asbestos.

hh. Regulated area. An area established by the employer to demarcate areas where Class I, II, and III asbestos work is conducted, and any adjoining area where debris and waste from such asbestos work accumulate; and other work areas within which airborne concentrations of asbestos exceed, or there is a reasonable possibility they may exceed, the PEL.

ii. Removal. All operations where ACM and/or PACM is taken out or stripped from structures or substrates, including demolition operations.

jj. Surfacing material. Material that is sprayed on, troweled on, or otherwise applied to surfaces, such as acoustical plaster on ceilings and fireproofing materials on structural members, or other materials on surfaces for acoustical, fireproofing, and other purposes.

kk. Thermal system insulation (TSI). Insulation applied to pipes, fittings, boilers, breeching, tanks, ducts, or other structural components to prevent heat loss or gain or water condensation.

ll. Work area. The area where asbestos-related work or removal operations are performed, which is defined and isolated to prevent the spread of asbestos dust, fibers, or debris, and to prevent entry by unauthorized personnel. The work area is a regulated area as defined in 29 CFR 1926.1101(b).

1506. KEY ASBESTOS CONTROL PROGRAM ELEMENTS.

a. Written Asbestos Control Plan (ACP). Each region and center (see definition of center, paragraph 1505m) shall develop and implement a written asbestos control plan (ACP) which includes, at a minimum, the key asbestos control program elements (sub-paragraphs b through l) identified in this paragraph, and also outlines how the region or center will comply with the regulatory requirements cited in paragraph 1504 and FAA Order 1050.20. The ACP shall cover all buildings and facilities within the region’s or center's jurisdiction, and shall be made available for inspection by employees and their authorized representatives. The ACP shall be reviewed annually and updated as necessary.

b. Facility Asbestos Coordinator (FAC). A FAC shall be designated to manage the asbestos control program at a facility. One person may serve as the FAC for more than one local facility. This individual shall meet OSHA's requirement for "competent person" by maintaining current standing as an accredited asbestos supervisor in accordance with the criteria specified in EPA's Model Accreditation Plan (40 CFR 763, Subpart E, Appendix C).

c. Asbestos Inspection and Abatement Procedures. The ACP shall include procedures for obtaining and maintaining information about the presence, location, and condition of ACM and/or PACM in all buildings and facilities occupied by FAA employees, including those that are FAA-owned or -leased and those controlled by GSA. Procedures shall include, at a minimum, the following:

(1) All FAA-occupied buildings and facilities constructed prior to 1981 shall be presumed to contain ACM and be treated accordingly. The FAC shall assess whether there is ACM and/or PACM in buildings and facilities constructed in 1981 or later on a case-by-case basis.

(2) Prior to commencement of a renovation or demolition project, the affected facility or the part of the facility where the work will occur shall be thoroughly inspected for the presence of asbestos by the FAC or by a person meeting OSHA’s definition of “competent person.”

(3) All FAA-occupied buildings and facilities identified as containing ACM and/or PACM shall be visually inspected at least annually by the FAC or another employee designated by the FAC and trained in accordance with paragraph 1506e(2)(b), to assess the condition of the ACM and/or PACM, and to determine if correction is needed. The FAC shall determine the necessity for bulk sampling or area air monitoring during these inspections.

(4) For O&M jobs involving disturbance of PACM building materials, the FAC shall determine whether to implement the controls outlined in the OSHA asbestos standard for construction or to have the building materials analyzed by a qualified laboratory in order to rebut the presumption of ACM.

(5) When a potential health hazard to building occupants exists due to the presence of damaged or friable ACM and/or PACM, abatement procedures shall be initiated as soon as possible.

d. Labels and Signs.

(1) Asbestos warning signs shall be posted at all regulated areas. Signs shall be posted at such distance from a regulated area so that an employee can see them and take protective steps to avoid entering the area marked by the sign.

(2) Signs shall be posted at the entrance to mechanical rooms/areas containing ACM and/or PACM into which employees can reasonably be expected to enter. Signs shall direct employees to the proper protocols document that includes the material that is present, its location, and appropriate work practices to ensure that ACM and/or PACM will not be disturbed.

(3) Where feasible, warning labels shall be affixed to previously identified thermal insulation or surfacing that is ACM and/or PACM, i.e., in areas where routine maintenance takes place and/or where there is reasonable likelihood of contact with these materials. Labels must be attached where they will be clearly visible to employees entering the area, such as at the entrance to a mechanical room. Signs may be posted in lieu of labels if they contain required labeling information.

(4) All signs and labels must be placed or affixed by an EPA-accredited inspector in collaboration with the FAC.

e. Training and Communications.

(1) The appropriate level of asbestos training, as described below, shall be provided at no cost to all FAA employees.

(2) FAA employees required to perform Class III or Class IV work shall be trained as follows:

(a) For FAA employees who will do general Class III work in which ACM is only "disturbed" (see definition of "disturbance" in paragraph 1505t), OSHA requires training equivalent to the EPA Operations and Maintenance course for maintenance and custodial workers, described in 40 CFR 763.92(a)(2). This training requires a minimum of 16 hours and must include hands-on training. In addition, as specified in 29 CFR 1926.1101(k)(9)(v), if the FAC determines that the EPA curriculum does not adequately cover the training needed to perform a given activity, additional training shall be given, including the elements outlined in 29 CFR 1926.1101(k)(9)(viii) and hands-on training related to that activity. Initial training must be completed before the worker's activity begins, and at least annually so long as the worker is involved with ACM and/or PACM.

(b) Maintenance and custodial workers who will only come into contact with ACM and/or PACM, but will not disturb it (Class IV), shall receive training in accordance with 29 CFR 1926.1101(k)(9)(vi). The training is at least 2 hours, and is equivalent to the EPA awareness course for maintenance and custodial workers, described in 40 CFR 763.92(a)(1). Initial training must be completed before the worker's activity begins, and at least annually so long as the worker is involved with ACM and/or PACM.

(3) All building/facility occupants and others (e.g., janitorial service employees) who regularly are in the building or facility containing ACM and/or PACM shall be informed about its presence in the building and shall be cautioned against disturbing these materials by, for example, hanging plants from ceilings, driving nails into walls, allowing furniture to dent or to rub abrasively against walls, or digging at TSI or flooring materials.

f. Area, Exposure, and Clearance Determinations.

(1) Area air sampling.

(a) Baseline level sampling. Baseline level air samples are required prior to any Class I and Class II asbestos abatement work. Class III asbestos abatement work may require baseline level air sampling. The type of baseline level sampling will be determined by the clearance sampling method required for a particular project.

(b) Clearance sampling. Area air samples, analyzed by Phase Contrast Microscopy (PCM), shall be used to determine whether a work area or building/facility may be reoccupied after asbestos abatement work has been completed. In certain instances, clearance samples may be analyzed by the Transmission Electron Microscopy (TEM) method.

(c) Periodic monitoring. Periodic area air monitoring shall be performed as part of routine O&M ACM and/or PACM activities as outlined in the O&M Plan; as required by OSHA and/or by the facility asbestos abatement contingency plan for perimeter monitoring during Class I and II asbestos abatement operations; and as deemed appropriate by the FAC.

(2) Exposure assessments. Exposure assessments for FAA employees performing Class III and Class IV work shall be performed in accordance with 29 CFR 1926.1101(f) and as described in paragraphs 1506f(2)(a), (b), or (c). Affected employees or their designated representatives shall be provided an opportunity to observe any monitoring of employee exposure to asbestos.

(a) For FAA employees, initial exposure assessments shall be performed at the beginning of each job involving Class III work. Exposure assessments are conducted to predict whether exposure levels will exceed the PEL's established in the OSHA standards. These assessments are used to decide whether periodic monitoring and other precautions will be needed. This initial exposure assessment shall be based on monitoring conducted pursuant to 29 CFR 1926.1101(f)(1)(iii). The sampling shall be conducted by an industrial hygienist or an air monitoring technician under the direct supervision of the CIH. It must include samples collected under work conditions having the greatest potential for releasing asbestos fibers.

(b) Negative exposure assessments (NEA) for SOP's shall be performed in accordance with 29 CFR 1926.1101(f)(2)(iii). Data supporting the NEA cannot be more than 12 months old at the time of the current or projected job.

(c) The case of an unanticipated or episodic event (e.g., excessive vibration due to construction, earthquake, or forklift rupture) that may have caused a release of airborne asbestos fibers into occupied work spaces shall be addressed in the facility O&M Plan.

g. Class I and II Asbestos Abatement. Class I and II asbestos abatement projects shall be conducted by contractor employees in strict accordance with Federal, state, and local regulatory requirements and FAA orders, particularly AF Order 1050.20.

(1) Asbestos abatement specifications shall be site-specific and include detailed procedures to be used by the abatement contractor to abate the asbestos safely and thoroughly while ensuring the safety and health of employees in the facility.

(2) The abatement contractor shall prepare a written asbestos abatement plan that shall comply with the requirements of the project specifications, and be compatible with the current facility asbestos abatement contingency plan and other applicable FAA orders and guidelines.

(3) Project oversight and environmental monitoring shall be performed by an independent third party CIH employed by an industrial hygiene firm contracted by the FAA.

h. Operations and Maintenance (O&M) Plan. The FAC shall manage ACM and/or PACM that are in place in FAA buildings and facilities through the implementation of an asbestos operations and maintenance (O&M) plan. The goals of this plan are to minimize the possibility of an asbestos exposure event through implementation of an effective in-place management plan that includes SOP's and work practices.

(1) The FAA O&M Plan includes Class III removal of TSI, surfacing ACM, nonfriable asbestos flooring, roofing, and building composite materials, routine operations and maintenance tasks that "disturb" ACM and/or PACM, and Class IV housekeeping activities in locations posted as containing ACM (e.g., mechanical rooms).

(2) The ACP shall include or refer to a written O&M Plan detailing procedures, responsibilities, and accountability in matters concerning management of ACM and/or PACM in both occupied and nonoccupied buildings and facilities.

(3) The written O&M Plan shall follow all applicable OSHA and EPA requirements for the performance of Class III or IV work, including training, demarcation of regulated areas, use of containment controls, negative exposure assessment, area and personal air sampling, signs and labels, respirator and personal protective equipment use, medical surveillance, recordkeeping, and oversight by a "competent person."

i. Facility Asbestos Abatement Contingency Plan (FAACP).

(1) A written facility asbestos abatement contingency plan (FAACP) shall be developed for occupied buildings and facilities that details oversight and response procedures to be followed by facility management, employees, any FAA "competent person(s)," and the independent third party CIH during a Class I or II asbestos abatement project performed by a contractor.

(2) The FAACP shall be kept current and contain at least the following:

(a) Notification listing of primary contacts to be used when an abatement-related asbestos incident has occurred.

(b) Procedures to be followed by management, the project engineer, the FAC, any other applicable FAA "competent person(s)," the independent third party CIH, and any other key individuals when there has been an incident (e.g., breach in containment or loss of negative pressure) resulting in potential release of airborne asbestos fibers. Procedures shall include requirements for area air and personal exposure monitoring.

(c) Procedures for re-occupancy of the building/facility.

j. Medical Surveillance.

(1) A medical surveillance program shall be instituted to cover FAA employees, such as Class III O&M workers and construction abatement overseers, who for a combined total of 30 or more days per year perform such work or have been exposed at or above a PEL, in accordance with 29 CFR 1926.1101(m). The program shall include written procedures for providing the examining physician with the information specified in 29 CFR 1926.1101(m)(3).

(2) Any day in which such worker fully follows the prescribed work practices and engages in O&M work on intact material for 1 hour or less (including cleanup) will not count toward the 30-day total.

(3) If such worker's duties require exposure to asbestos fewer than 30 days in a year, but do require the use of a negative-pressure respirator, then medical surveillance will be limited to determining that the worker is physically able to perform the work and to wear a respirator. The determination will be made in accordance with the requirements of the OSHA respirator standard, 29 CFR 1910.134(e). A physician or other licensed health care professional shall supervise this determination.

(4) Medical surveillance for bystander workers is limited to unanticipated, episodic releases of airborne asbestos fibers in accordance with the information in figure 15-1, Policy Memo #AEE097-01, Medical Surveillance Requirements for FAA Employees Following Unanticipated, Episodic Releases of Asbestos Containing Dust, dated December 23, 1996.

k. Recordkeeping.

(1) Records concerning the identification, location, and quantity of ACM and/or PACM in FAA-owned buildings and/or facilities shall be maintained for the duration of ownership, and shall be transferred to successive owners. For FAA-leased and GSA-controlled buildings and/or facilities, notifications of the presence of ACM and/or PACM are required from building owners and shall be maintained in the buildings and/or facilities for the duration of the occupancy. Copies of all records shall be maintained in locations designated by the region and center ACP.

(2) All facility inspection reports (including bulk and air sampling results) shall be retained in a permanent ACM and/or PACM file in the building/facility or if an unoccupied building/facility or FAA housing then in an office designated by the FAC. Periodic visual inspection records shall be retained in an active file until the next comprehensive asbestos inspection, after which they may be archived. If bulk sampling is performed to demonstrate that PACM does not contain asbestos, the data shall be retained so long as they are relied upon to rebut the presumption.

(3) Following an asbestos abatement project, the final report from the independent third party CIH shall be maintained in an accessible location.

(4) Permanent building/facility records also shall include records of all O&M work on the ACM and/or PACM in the building and/or facility.

(5) Records of all measurements made to monitor employees' exposure to asbestos shall be maintained at least 30 years. Copies of employee exposure records shall be maintained in the region and center human resources office and in locations designated by the region and center ACP.

(6) Employee asbestos medical surveillance records, including written evaluations of employees' ability to wear respirators, shall be maintained for the duration of the employee's employment plus 30 years. Regional flight surgeons shall be the custodians of these records.

(7) Training records shall be maintained for at least 1 year beyond the last date of employment.

l. Quality Assurance/Quality Control (QA/QC) Program.

(1) The written ACP shall include procedures for a QA/QC program to ensure that QA/QC is maintained in the collection and analysis of asbestos bulk samples and both area and personal air samples.

(2) Sampling and analysis shall be performed in accordance with current OSHA and EPA requirements as follows:

(a) Samples shall be identified, stored, and delivered to a laboratory for analysis following chain-of-custody procedures.

(b) Analysis of samples shall be performed by persons or laboratories with proficiency demonstrated by current successful participation in a nationally recognized testing program like the National Voluntary Laboratory Accreditation Program (NVLAP) or the National Institute for Standards and Technology (NIST) Proficiency Analytical Testing (PAT) program administered by the American Industrial Hygiene Association (AIHA). If microscopy is performed on site, the microscopist must have completed the NIOSH 582 course or equivalent. This person must also be registered with the AIHA Asbestos Analysis Registry (AAR) or have been successful in the most recent four rounds of the PAT program. Sample analysis shall follow the analytical method specified in the sampling strategy identified in the regulations and/or agency guidance.

(c) Asbestos bulk samples (collected during building surveillance and re-inspections) shall be collected according to EPA's revised bulk sample analysis method in "Method for the Determination of Asbestos in Bulk Building Materials" (EPA/600/R-93/116). Samples must be collected by an AHERA-certified inspector or by a CIH.

(d) Asbestos personal air samples, baseline level samples, area air samples, and perimeter monitoring for Class I, Class II, and Class III work shall be collected according to the National Institute of Occupational Safety and Health (NIOSH) Method 7400 and analyzed by Phase Contrast Microscopy (PCM) as specified in 29 CFR 1926.1101 Appendix A. In certain instances, samples will be analyzed by the TEM method.

1507. ACRONYMS. The following acronyms apply to this chapter:

AAR	Asbestos Analysis Registry
ACM	Asbestos Containing Material
ACP	Asbestos Control Plan
AEE	Office of Environment and Energy
AHERA	Asbestos Hazard Emergency Response Act
AIHA	American Industrial Hygiene Association
ANS	NAS Transition and Integration
ARTCC	Air Route Traffic Control Center
ASHARA	Asbestos School Hazard Abatement Reauthorization Act
CIH	Certified Industrial Hygienist
CFR	Code of Federal Regulations
EPA	Environmental Protection Agency
FAA	Federal Aviation Administration
FAACP	Facility Asbestos Abatement Contingency Plan
FAC	Facility Asbestos Coordinator
GSA	General Services Administration
HEPA	High Efficiency Particulate Air
NEA	Negative Exposure Assessment
NIOSH	National Institute for Occupational Safety and Health
NIST	National Institute for Standards and Technology
NVLAP	National Voluntary Laboratory Accreditation Program
O&M	Operations and Maintenance
OSHA	Occupational Safety and Health Administration
PACM	Presumed Asbestos Containing Material
PAT	Proficiency Analytical Testing
PEL	Permissible Exposure Limit
PCM	Phase Contrast Microscopy
QA/QC	Quality Assurance/Quality Control
SOP	Standard Operating Procedure
TEM	Transmission Electron Microscopy
TSI	Thermal System Insulation
TWA	Time Weighted Average

1508-1599. RESERVED.

Figure 15-1. POLICY MEMO #AEE09-01, MEDICAL SURVEILLANCE REQUIREMENTS FOR FAA EMPLOYEES FOLLOWING UNANTICIPATED, EPISODIC RELEASES OF ASBESTOS CONTAINING DUST, DATED DECEMBER 23, 1996

Memorandum

U.S. Department
of Transportation
Federal Aviation
Administration

ACTION: Policy Memo # AEE097-01.

Subject: Medical Surveilance Requirements for FAA Employees Following Unanticipated, Episodic Releases of Asbestos Containing Dust

Date: DEC 23 1996

From: Assistant Administrator for Policy, Planning, and International Aviation, API-1 (Designated Agency Safety and Health Official)

Reply to Attn. of:

To: Regional Administrators
Airway Facilities Division Managers
Air Traffic Division Managers
Regional Flight Standards Division Managers
Airports Division Managers
Regional Flight Surgeons

This policy[1] delineates the position of the agency with regard to medical followup procedures for FAA employees who work in areas adjacent to asbestos-related construction activities and who may have been exposed to airborne asbestos fiber when there has been an unanticipated failure of containment controls on one or more occasions. This policy is in addition to the requirements under 29 CFR 1926.1101(d)(3), which states that all employers of employees exposed to asbestos hazards created by another employer performing construction-related asbestos activities shall comply with applicable protective provisions to protect their employees.

This policy also shall apply to episodic occurrences not originating with construction activities that cause damage to asbestos-containing building materials (ACBM), and result in subsequent release of asbestos dust into the air. Examples of these include earthquakes, vibration due to heavy ground or air traffic, an accidental puncture of insulated piping by a forklift, etc. All will require construction-related activities for repair and, therefore, should be viewed as falling within the scope of the asbestos standard for construction.

"Bystander employees" is a term the Occupational Safety and Health Administration (OSHA) has initiated to describe those workers whose job duties require them to occasionally work near or adjacent to other workers engaged in asbestos abatement or in maintenance activities involving asbestos containing materials (ACM). The FAA's air traffic controllers, employed in facilities where occasional asbestos-related construction activities take place, are examples of bystander employees under the OSHA standard. Construction activities include, but are not limited to, removal of asbestos containing insulation materials, repairing or replacing damaged ACBM, and maintenance of air handling units in areas where ACM could be disturbed.

[1] This policy will serve as interim policy until it is incorporated as an appendix in the agency's asbestos directive (Order 3900.XX), currently under development.

Figure 15-1. POLICY MEMO #AEE09-01, MEDICAL SURVEILLANCE REQUIREMENTS FOR FAA EMPLOYEES FOLLOWING UNANTICIPATED, EPISODIC RELEASES OF ASBESTOS CONTAINING DUST, DATED DECEMBER 23, 1996, contd.

The OSHA standards for asbestos (29 CFR 1910.100l[1] and 29 CFR 1926.1101[1]) do not specifically address medical surveillance requirements for *bystander employees* who are exposed to unanticipated releases of asbestos fibers. In September 1995, a memorandum was drafted by AEE and routed through the Office of the Secretary of Transportation to the OSHA requesting clarification in this matter. OSHA's response was received on December 6, 1995, and is attached.

In accordance with the OSHA, the FAA's policy is that full-scale medical surveillance is indicated for bystander employees only when they have received exposures to airborne asbestos fibers at or above the OSHA permissible exposure limits (PEL's) for a combined total of 30 days or longer per year, as demonstrated by breathing zone air samples which have been analyzed via phase contrast microscopy (PCM). This requirement applies independent of whether or not *bystander employees* have been assigned respirators.

Current OSHA employee (PEL's)[1] include:

- Time-weighted average limit (TWA) of 0.1 fibers per cubic centimeter (f/cc) of air as averaged over an 8-hr time period.

- Excursion Limit (EL) of 1.0 f/cc of air as averaged over a sampling period of 30 minutes.

The procedure for establishing *bystander employee* exposure in excess of the OSHA PEL's, and when inclusion in the FAA medical surveillance program should begin is outlined below.

1. <u>When the exposures of *bystander employees* are supported by valid employee air monitoring</u>.[1] Collection of valid employee data during most unanticipated releases of asbestos-containing dust will be a rare occurrence, because of their inherent unpredictability. Because of this, a facility contingency plan (or similar emergency planning document) should be in place prior to undertaking Class I, II, or III asbestos work as defined by the asbestos standard for construction, and should include details about when to initiate personal air monitoring of *bystander employees.* Only personal monitoring collected in accordance with OSHA-approved methods legitimately can be used for comparison with OSHA employee exposure limits. This means the sampling cassette (filter) is actually placed within an employee's breathing zone, usually designated as within 1 foot of the employees head, on representative employees. Area or environmental monitoring that

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[2] Amended by OSHA August 10, 1994 (59 FR 40964). The startup date of some provisions of the standard, including medical surveillance, were extended to October 1, 1995 (60 FR 33343, 6/28/95).

[3] Formerly 29 CFR 1926.58. The startup dates also were extended as noted above.

[4] The OSHA Action Level has been discontinued and is not included in the current asbestos standards.

[5] Air sampling would not be useful or valid, for example, when time has elapsed between the release and its discovery, during which operation of the ventilation system, the settling of dust, the redistribution of asbestos-containing dust, or all of the above also has occurred.

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commonly done to verify the adequacy of containment controls during asbestos abatement work, while informative, shall not be used as surrogate employee exposures.

For documented employee exposures, medical surveillance shall be provided as follows:

A. When exposures meet or exceed the OSHA PEL (TWA or EL) fewer than 30 days in a calendar year.

(1) One-time medical counseling by the Regional Flight Surgeon (RFS) or his/her designee may be provided within 15 working days to an exposed employee following a documented event at FAA's expense, if requested by that exposed employee. A record of the counseling shall be added to the employee's medical folder.

(2) An OWCP form CA-2 may be prepared by the exposed employee within 30 days following exposure for inclusion in his/her medical folder.

(3) The regional safety office shall maintain a record of employee exposures along with supporting air monitoring documentation. Copies of these records shall be made available to appropriate *bystander employees* upon request.

(4) Steps (1) through (3) above shall apply when there has been a positive determination of employee exposure pursuant to paragraph 2.

B. When 30 or more days of exposure have been documented in a single calendar year.

(1) The medical surveillance requirements detailed in 29 CFR 1926.1101(m) shall be activated within 10 days following the 30th day of exposure.

(2) Specific recordkeeping requirements for exposure measurements and medical surveillance covered by 29 CFR 1926.1101(n)(2) and 1926.1101(n)(3), respectively, shall be initiated at this time.

2. When the exposures of *bystander employees* are not supported by valid employee air monitoring.

A. The Regional Program Manager for Environment and Safety (RPMES), in coordination with the Regional Occupational Safety and Health Manager (ROSHM) and AXX-450, shall collect the information in (1) and (2) below prior to meeting with the RFS for the purpose of deciding together the likelihood that employee exposure above the PELs has occurred.

(1) Assemble complete descriptive information of the event. The RPMES is responsible for collecting and compiling, within 30 days, written descriptive

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chronologies of events as perceived by: himself/herself, the affected employees, the contracting employer's representative, and others as appropriate. This chronology should include, if available, the information listed below:

- Date and time of event.
- Number and location of *bystander employees* at time of event
- Floor plan or sketch showing source of asbestos release relative to location of each *bystander employee*.
- Duration of time between actual release and discovery of event.
- Length of time between discovery of event and installation of controls, including work stoppage, evacuation of employees, donning of respirators (if applicable), repair of critical barriers, shutting off ventilation, etc.
- Additional information as needed to complete the evaluation.

(2) Assemble relevant air monitoring data**.** Any air monitoring and analytical data collected subsequent to the event shall be obtained by the RPMES. The data should include:

- Description of air monitoring pumps, flow rates, calibration dates and times, length of time between incident and initiation of air monitoring (or best estimate), monitoring duration times, number of blanks submitted with samples, etc.
- For personal monitoring, each employee's name and location; for area monitoring, the locations of pumps should be should shown on building floor plans.
- Laboratory accreditation number for the lab which analyzed the samples, or other proof of its participation in the American Industrial Hygiene Association Proficiency Analytical Testing (PAT) Program.
- Laboratory analytical results based on phase contrast microscopy (PCM) performed in accordance with OSHA-approved methods. Note: Supplementary data from transmission electron microscopy (TEM) performed using the NIOSH Method 7402 may be included. AHERA TEM analytical data will not be used for assessing employee exposures.
- Additional information as required for evaluation purposes.

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(3) Prepare written recommendation. The RFS shall forward to AEE-200 a written rationale, prepared in coordination with the RPMES, ROSHM, and other qualified regional staff, for recommending whether or not the above data support a determination that bystander employees' exposure was in excess of the PEL's.

B. Determination. The determination of whether a *bystander employee* has received a recordable exposure in excess of either or both of the PEL's shall be made by AEE-200, following the review of all relevant information contained in paragraphs 2A(1) and 2A(2), plus the rationale for the recommendation submitted by the RFS. The review shall be performed in coordination with the Federal Air Surgeon or his designated representative within 30 days.

(1) If the determination supports bystander employee exposure in excess of one or both of the PEL's then paragraph 1 applies.

(2) If the determination does not support bystander employee exposure in excess of one or both of the PEL's, then no further action is required under the OSHA standards.

C. Report. A brief report detailing reasons for the determination pursuant to paragraph 2B shall be prepared by AEE-200 or designated representative and provided to the Federal Air Surgeon or his designated representative for inclusion in each applicable *bystander employee's* medical folder. A copy will be sent by AEE to the RFS who submitted the recommendation. The RFS will then use the report as notification to each affected *bystander employee* within 15 working days following the report's official date.

3. Retention of Records.

A. Employee exposure records. Each employee exposure record shall be preserved and maintained for at least thirty (30) years.

B. Employee medical records. Each employees's medical records shall be preserved and maintained for at least the duration of employment plus thirty (30) years.

This policy is effective immediately and is not retroactive, i.e., it affects only future unanticipated exposures as described on the first page of this policy memorandum. Employees already included in employee asbestos monitoring programs will not be removed from those programs.

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6

If you have questions concerning this policy, please contact Jeanne Kosch, Occupational Safety and Health Program Manger for Policy, AEE-200, at (202) 267-9719.

Barry L. Valentine

Attachment

Figure 15-1. POLICY MEMO #AEE09-01, MEDICAL SURVEILLANCE REQUIREMENTS FOR FAA EMPLOYEES FOLLOWING UNANTICIPATED, EPISODIC RELEASES OF ASBESTOS CONTAINING DUST, DATED DECEMBER 23, 1996, contd.

U.S. Department of Labor

Occupational Safety and Health Administration
Washington, D.C. 20210

Reply to the Attention of:

DEC 6 1996

Ms. Janet Kraus
Chief, Administrative
Services Policy Division
U.S. Department of Transportation
Office of the Secretary of
Transportation
400 Seventh Street, S.W.
Washington, D.C. 20590

Dear Ms. Kraus:

This is in response to your recent inquiry regarding the applicability of 29 CFR 1910.1000 to "bystander" worker expo-
Sure which results from the removal, renovation, or demolition of asbestos containing materials during construction activities. Additionally, you express concerns regarding the applicability of medical surveillance to these "bystander" employees.

Workers engaged in construction activities, i.e. asbestos removal, renovation, or demolition are covered by the standard contained in 29 CFR 1926.1101. Workers of adjacent work sites are also covered by the construction standards contained in 29 CFR 1926.1101. Thus, those employees you refer to as "bystanders" are provided protection from asbestos exposure resulting from the removal, renovation, or demolition activi-
ties by the 1926 standard.

Regarding the issue of whether or not medical surveillance programs must be developed for "bystander" employees on asbestos abatement worksites, that will depend entirely on the exposure to the "bystander" employee. If bystanders are exposed for 30 days or more above the PEL, medical monitoring in accordance with 29 CFR 1926 is applicable. However, it is not anticipated that, in most instances bystander employees will be exposed for greater than 30 days per year.

If we can of further assistance to you, please contact me at 202-219-9329, extension 170.

Sincerely,

John E. Plummer, Director
Office of Federal Agency Programs